

WITNESS: ANNIE KHAN DOOKHAN, Chemist DPH Lab

- 1) Could you please state and spell your full name? Annie Dookhan
- 2) Where are you currently employed? Dept of Public Health – Drug Lab
- 3) How long have you been employed with the DPH State Drug Laboratory? 7 ½ years
- 4) What are the duties and responsibilities as a chemist/evidence officer at the Massachusetts DPH Drug Laboratory? To analyze and confirm unknown substances, as well as oversee the QC/QA program for the drug lab. QA/QC is responsible for accuracy and preventative maintenance of all instruments, balances, chemical reagents and to ensure that all the chemists are following the policies and procedures of the lab and DPH.
- 5) What is a custodial chemist? Maintains the chain of custody and the integrity of the sample. They are the only one that handles the substance and are responsible for the weight and prelim tests. What is a confirmatory chemist? Is a chemist trained in the operation and interpretation of an instrument called a GC/MS (Gas chromatography/Mass spectroscopy). This instrument will structurally separate and identify the unknown substance and its components. They will visually compare a known standard to the unknown sample by the retention time (size of the molecule) and the ionic pattern (which is like a fingerprint of the molecule). Are you either? I am both a custodial and confirmatory chemist.
- 6) What formal education have you received? MS in Chemistry
BS in Bio-Chemistry
- 7) Have you also received specialized training in the field of drug analysis and identification? 6 week in house training by the lab supervisor (and other trainings)
- 8) Can you explain in general how you receive substances from police agencies? Samples are submitted by the police dept. A drug receipt is filled out documenting the police dept, submitting officer and a description of the sample/s. The sample is assigned a Lab # and a gross weight. A control card is generated with the pertinent information from the drug receipt. The sample and the control card is placed into a manila envelope with the corresponding lab # and placed into the safe until the sample is assigned to a chemist.
- 9) Once the substance(s) have been logged in, are they assigned to a particular chemist for testing and analysis? Samples are assigned randomly to any of the chemist.
- 10) How do you receive case assignments for testing and analysis? Basically, I will ask the evidence officer for samples and they will assign me samples randomly.
- 11) What happens when you are assigned a case? The evidence officer will log out and assign me the samples. I will then check each manila envelope to make sure the control card, lab # and sample correspond with each other.
- 12) Approximately how many times have you had occasion to test for a controlled substance? 10s of thousands
- 13) In particular have you received training and learned how to test the presence of cocaine? Yes

- 14) Can you describe the test(s) to determine whether a substance contains cocaine? **Cocaine:** We perform prelim test which include 4 spot test and microcrystalline test
- 15) Does this test have a name/ Do these tests have names? **Cocaine:** Cobalt thiocyanate, marquis, froedhes, meckes, Gold chloride and TLTA
- 16) If cocaine is present, what happens during that test (those tests)? **Cocaine:** Cobalt thiocyanate test will turn from a pink to blue. Microcrystalline test will then be performed to determine the isomers and the diastereomers of cocaine is present. Basically, it is a structural ID of cocaine to tell the presence of D vs L cocaine. L being the naturally occurring cocaine. Then a small amount of sample is place in the appropriate solvent (liquid) for confirmatory testing.
- 17) In particular have you received training and learned how to test for the presence of heroin? **Yes**
- 18) Can you describe the test(s) to determine whether a substance contains heroin? **Heroin:** We perform prelim test which include 4 spot test.
- 19) Does this test / these tests have names? **Heroin:** Cobalt thiocyanate, marquis, froedhes & meckes
- 20) If heroin is present, what happens during that test (those tests)? **Heroin:** Cobalt thiocyanate test may turn from a pink to a blue color. Marquis test will turn from a clear to purple color. Froedhes test will turn from clear to purple color. Meckes test will turn from a clear to a green color. These tests are indicative of the presence of an opiate. Then a small amount of sample is place in the appropriate solvent (liquid) for confirmatory testing.
- 21) In particular have you received training and learned how to test the presence of oxycodone? **Yes**
- 22) Can you describe the test(s) to determine whether a substance contains oxycodone? **Oxycodone:** We will visually identify the markings or ballistics of the tablet/s. Using the password protected Micromedex Software or other literary references, like PDR, Drug ID Bible, we can identify markings of the tablets. We will document the ballistics of the tablet, (color, shape, marking, appearance and count). A portion of the tablet is cut and crushed and place in the appropriate solvent (liquid) for confirmatory testing.
- 23) Did you have an opportunity to analyze some substances in this case? **Yes**
- 24) On 8/3/2009, did the lab receive items for analysis from Quincy Police? **Yes**
- 25) Was some information received from Quincy along with those items? **Yes**
- 26) What information was received with those items on 8/3/2009? **A drug receipt is filled out documenting the police dept, submitting officer and a description of the sample/s. The sample is assigned a Lab # and a gross weight.**

- 27) Did your laboratory assign analysis numbers to those items? Yes
- 28) What analysis numbers were assigned to the case? (B09-11142, -11143, -11144, -11145)
- 29) On 3/1/2010, did you analyze these items? Yes
- 30) Can you tell us step by step what you did with those substances? Once assigned the sample/s, I made sure the gross weight, lab #s and description of the sample was accurate. Then I started to analyze the first Lab #. Once I determine the sample was intact and the integrity of the sample was maintained, I open the sample and began my analysis. I document my observations and description of the sample, did a gross weight and then a net weight of the sample. Then the prelim test and confirmatory test was done on each sample. For Lab # [REDACTED] I did a representative sampling each lab # since there were several samples involved. I tested 1 out of 4 and 1 out of 9 for Lab # [REDACTED] respectively. It is the current Lab policy that we do a representative sample of 10% for samples of lesser magnitude, as long as the samples are off similar size, color, texture and overall appearance.
- 31) Are the steps you just described the normal policies and procedures for testing an unknown substance? Yes
- 32) Were you able to conclude to a reasonable degree of scientific certainty what substance was contained in the items submitted by Quincy? Yes, lab # [REDACTED] contained cocaine; [REDACTED] contained Heroin; [REDACTED] contained oxycodone; [REDACTED] contained heroin.
- 33) What test(s) were used to determine that? The prelim and confirmatory test.
- 34) How much did these items weigh? [REDACTED] net weight of 1 analyzed was 0.38g; [REDACTED] net weight of 1 analyzed was 0.78; [REDACTED] net weight was 0.12g; [REDACTED] net weight was 0.31g
- 35) Was a report generated that documented your observations and analysis? Yes
- 36) I am placing a document before you do you recognize that document? Yes, it is the certificate of analysis for Lab # [REDACTED]
- 37) Did you include the information that you received with this substance on this document? Yes
- 38) Is that your signature on the document? Yes
- 39) Does this document relate to these drugs? (show drugs) Yes
- 40) How do you know that these drugs relate to this drug certificate? The laboratory # and my initials/signature

ENTER CERTS